

EC 134: Topics in Applied Economics (1a)

Weeks 2, 3, 4

Wednesday, 10 – 12 am, OC 0.04

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Week 2: Globalization and Tax Competition

What does 'Globalization' mean?

Tax Competition: The Common Believe

Fritz Scharpf (1997: 23): “capital is free to move to locations offering the highest rate of return (...). As a consequence, the capacity of national governments (...) to tax and to regulate domestic capital and business firms is now limited by the fear of capital flight and the relocation of production. Hence all national governments (...) are now forced to compete against each other in order to attract, or retain, mobile capital and firms.”

Gordon Brown in his budgetary speech on 21 March, 2007: “[...] because our goal is and will continue to be the most competitive business tax rate of the major economies, I have decided to cut mainstream corporation tax from April 2008 from 30p down to 28p - at 28p a rate lower than America, Germany, France, Japan, and all of our other major competitors - Britain's corporate tax rate, the lowest of all the major economies.”

Philipp Hammond announced in his 2017 autumn statement that the corporate tax rate will fall to 17% (as planned) by 2020

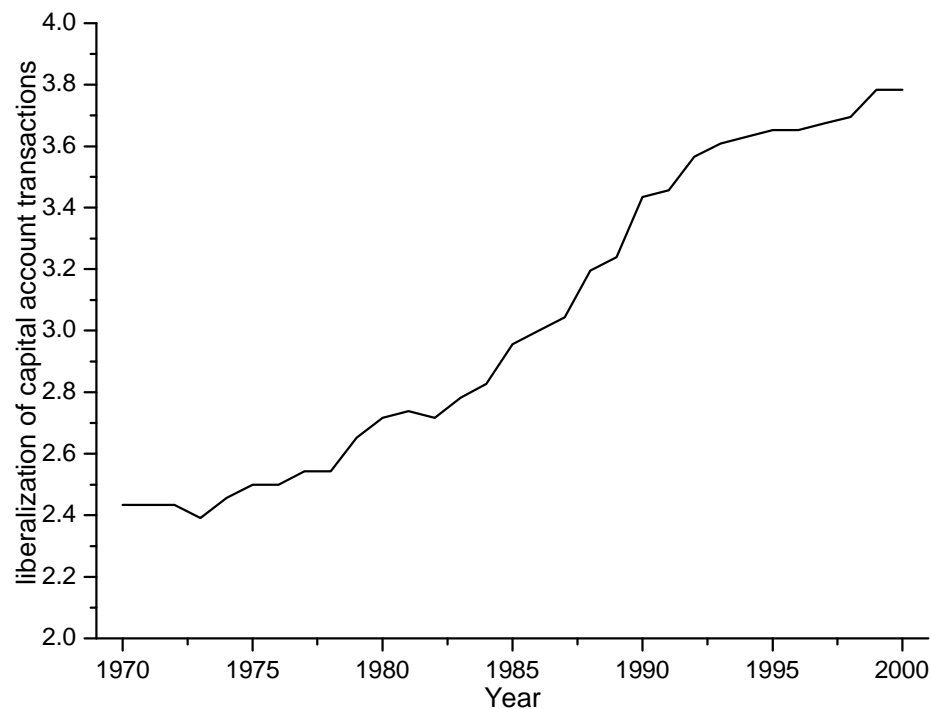
Some had interpreted Theresa May's comments that she wanted the UK to have the lowest corporation tax rate in the G20 as a sign that she could slash it as low as 15% – the rate promised by the US president-elect, Donald Trump. However, Hammond has held off for now.

The Logic of Tax Competition

“A striking feature of international tax competition is that independent jurisdictions fully or partially share a mobile tax base. As a consequence, if one country reduces its tax rate strategically to attract mobile capital it provokes an immediate inflow of capital, and this, in turn, creates a fiscal externality (i.e., a shrinking tax base) in other countries (see Wildasin 1989). In the (Nash-)equilibrium, governments are left in a situation where tax rates (on capital and labor) are set at comparably low levels.”

Hence: the logic of tax competition depends on capital mobility.

Capital mobility and capital flows



*liberalization of inward and outward capital account transactions (0-4):
Quinn 1997, annual mean of 23 OECD countries*

Between the early 80ies and late 90ies the annual flow of outbound FDI has nominally increased by more than 1200 % worldwide by rising from less than \$50 billion to more than \$600 billion.

Which tax bases are mobile?

- savings
- corporate profits
- corporations? (holdings)

hence:

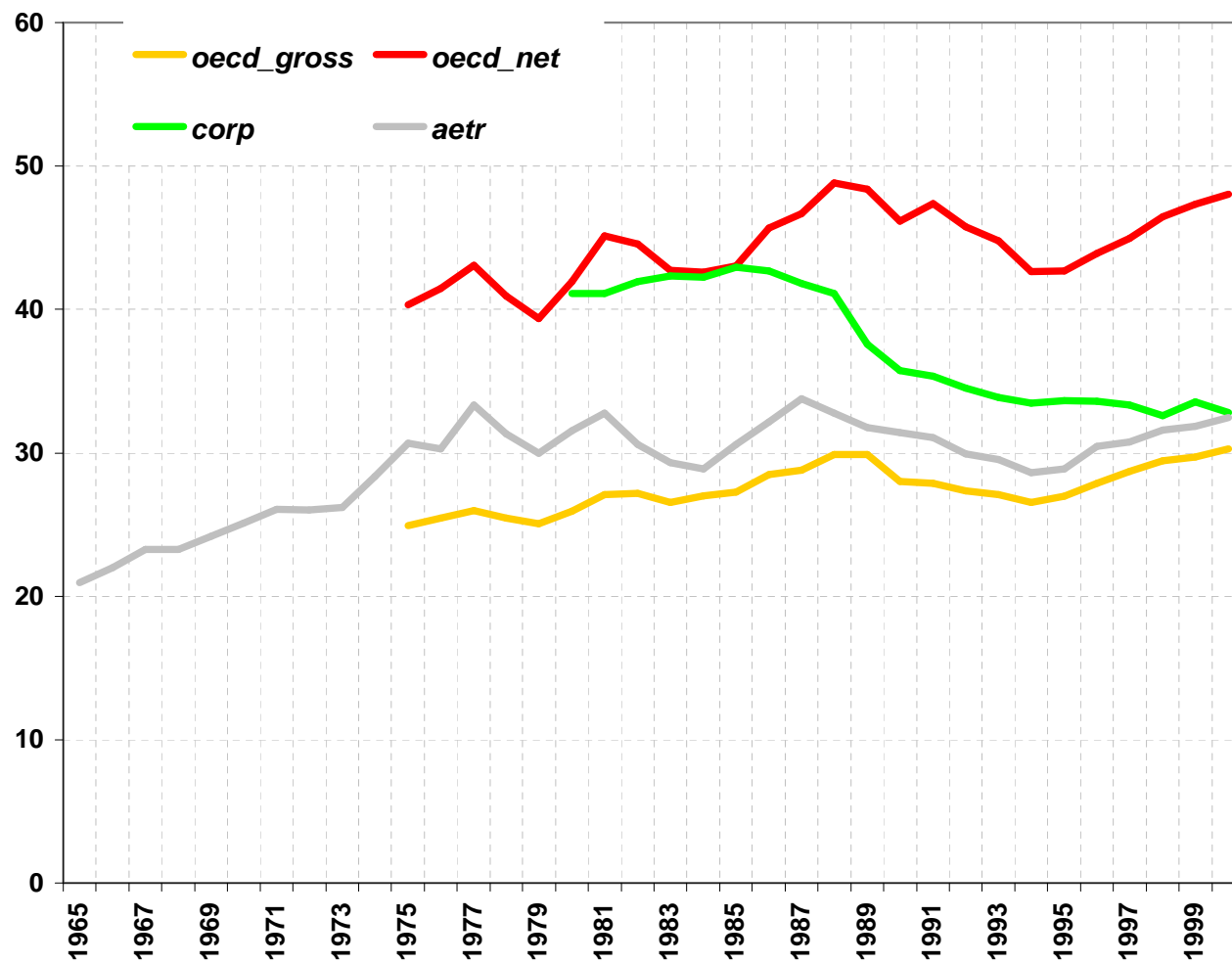
governments should remove

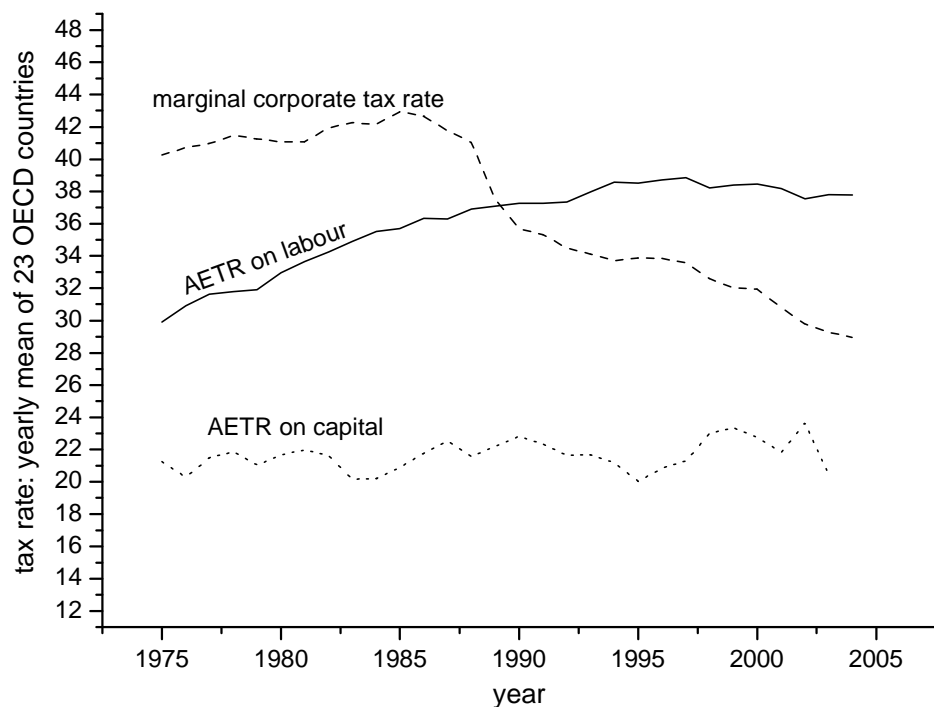
withholding taxes (capital earnings taxes)

and

corporate profit taxes

A view on Tax rates on Mobile Capital (Various Sources)





Mean top corporate tax rate, mean efficient labour and capital tax rate of 22 OECD countries

- US: 1986 – from 46 to 34%
- EU: 1980-2004: mean statutory rates fell by more than 13%
- OECD: cut by more than 15%
- Germany: 1994: 50-45%, 1999: 40%, 2001: 25%, new reform in 2007
- Ireland: 1973: corporate rate fell by 10%, 2000-2005: 24 to 12.5%
- Similar reforms in Benelux, Iceland, Austria etc.

Marginal corporate tax rates:

significantly decreased between 1980 and 2004 for all OECD (~14%) countries, but remain on average close to 30%.

1975: Variation between 8% (Portugal) and 51% (Germany)

1990: Variation between 9.8 % (Switzerland) and 50% (Germany)

2004: Variation between 8.5% (Switzerland) and 36% (Canada)

Effective tax rates on labour:

1975: Variation between 17% (Iceland) and 47% (Sweden)

2004: Variation between 19% (Iceland) and 55% (Sweden)

How to explain real world developments?

There is much to gain in predictive power by adjusting key underlying assumptions of early tax competition models closer to reality:

1. Does the government maximize social welfare, revenues or its political support?
2. Are countries homogeneous or do models allow some form of heterogeneity, for example size differences?
3. Are capital markets perfectly integrated and is capital thus fully mobile?
- (4. Are governments the only actors or are other actors explicitly incorporated?)
- (5. Do governments command over a single or more than one policy instrument?)
- (6. How many countries are considered in the model, two or more?)

Reaction of governments to capital mobility

- Revenue preserving strategies: tax cut cum base broadening: effective tax rates
- Shift of tax burden to immobile factors: labour markets are less integrated: The OECD average effective labour tax rate increased from 30% in 1975 to 40% in 2000

Tax Competition in the Literature

1. Generation 1 models of tax competition:

- 1 source based tax rate on capital, perfect mobility, policy makers welfare or revenue maximizers
- Prediction: equilibrium outcome zero tax rate on capital
- Zodrow and Mieszkowski 1986, Oates 1972, Wilson 1986, Hoyt 1991, Frey 1990, Scharpf 1997

2. Generation 2 models:

- 2 source base tax instruments on mobile and immobile factors, perfect mobility, governments welfare or revenue maximizer
- zero capital tax rate
- shift of full tax burden to labour
- under-provision of public goods
- whether the outcome is efficient or welfare deteriorating depends on assumptions about policy makers
- Richman 1963, Wilson 1991, Razin and Sadka 1991, Lucas 1990, Chamley 1986, Sinn 1997, Gordon 1986, Edwards and Keen 1996

3. Generation 3 models

- attempts to explain the absence of a race to the bottom in capital taxation
- 2 tax instruments, public good provision, governments as welfare or revenue maximizer, mainly high capital mobility

3.1 Economic approaches

- Infrastructure as semi-public good, congestion charge (Oates and Schwab 1988, Wellisch 1995, Wildasin 1986, Boadway 1980)
- Problem: how public is infrastructure?
- Asymmetric tax competition (Bucovetsky 1991, Wilson 1991)
- Problem: zero tax rates in small countries

3.2 Political Science Research

- Economic factors: unemployment, pre-committed spending and debt
- Political constraints: veto players and partisan politics, political system – varieties of capitalism

The Effect of Country Size

Winners and Losers of Tax Competition

Whether a country wins or loses tax competition is largely determined by country size.

In tax competition, being small is beautiful.

For small countries the so called tax base effect dominates the tax rate effect.

Small countries should act more aggressively in tax competition, because for them the tax base effect is more important than the tax rate effect. In large countries, the tax rate effect is more important than the tax base effect.

The Effect of Veto-Players

Hallerberg and Basinger argue that the extent of tax cuts depends on the number of veto-players (actors that can veto reforms). The more veto-players, the lower tax cuts.

The Effect of Partisan Politics

Right wing parties represent the interests of capital owners, tax capital income overall less, have no incentive to intervene in the domestic economy or redistribute income from richer to poorer parts of the society, whereas leftist governments respond more strongly to wage earners' preferences and try to maintain a large welfare state (Garrett 1995, Garrett and Mitchell 2001, Garrett 1998b).

The Varieties of Capitalism

The so called coherency thesis postulates two paths to economic performance: First a market economy in combination with minimalist governments as found in the US, the UK and Japan, and second the coordinated market model led by a more interventionist government, e.g. Austria, Denmark, and Finland. These two types of capitalism are seen as coherent and economically efficient. Moreover, no convergence of these two paths is to be expected. Globalization rather reinforces the differences (Garrett 1998a,b,c).

Majoritarian vs. Proportional Systems

Since the median voter in most societies is a wage earner and crucially determines policy outcomes in plural systems, policy makers in majoritarian democracies tax labour by a smaller rate. The opposite holds true for consensus democracies where the majority is constraint in favour of the minority – capital owners – and, thus, capital taxes are on average lower (Meltzer and Richard 1981).

The Effect of Budget Constraints

Governments in countries with budget deficits are less likely to reduce tax rates (Plümpfer, Troeger, Winner).

The Effect of Tax symmetry

Median voter = wage earner

Ceteris paribus, majority of voters prefers low labour and high capital taxation. The demand for tax symmetry, social justice and equality depends on political culture and how strongly fairness norms are enrooted in society (e.g. different types of welfare states generate different expectations of voters).

The difference between legal and de facto capital mobility

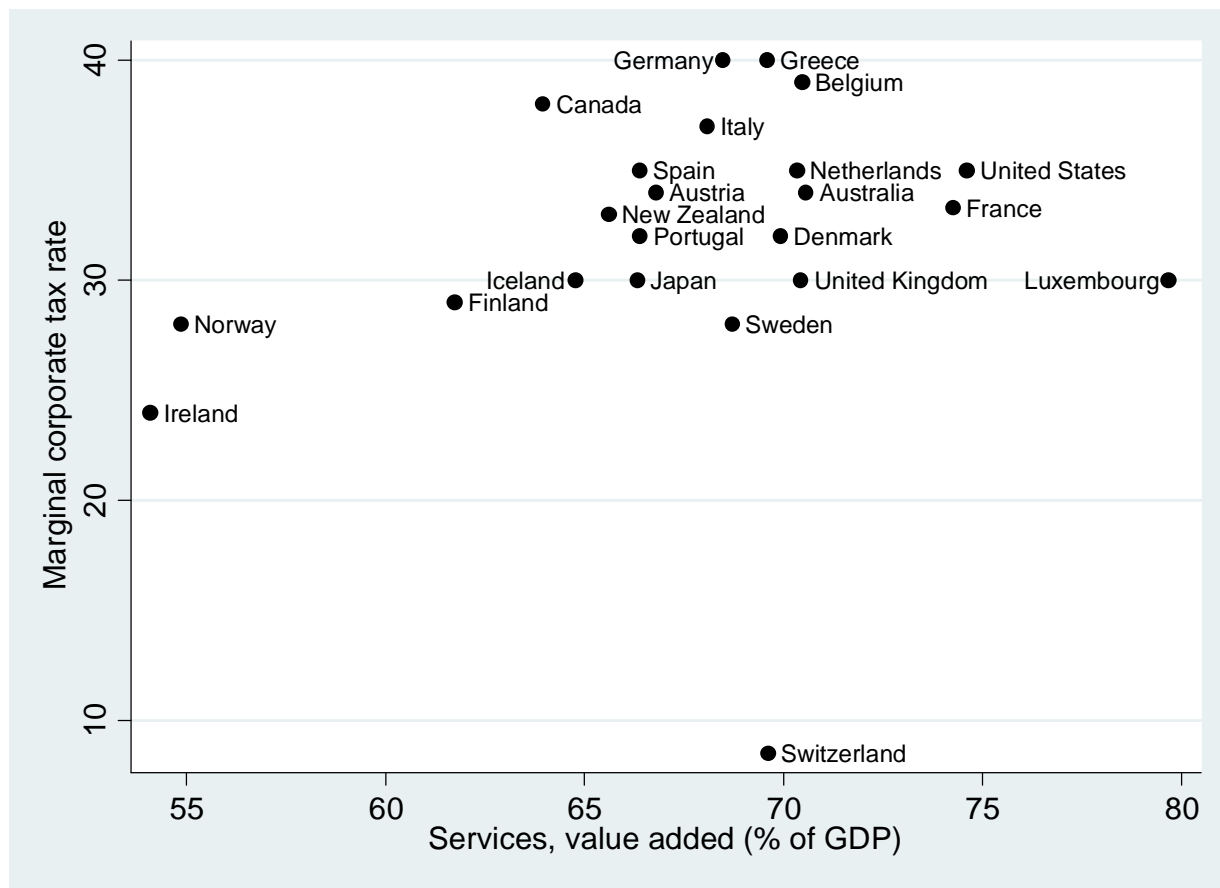
Preventing capital from fleeing depends on the actual ability and willingness of capital owners to shift capital:

- Ownership structure and concentration of capital determines transactions costs of moving capital, information costs etc.
- Differences in actual capital mobility can be observed: large MNEs with high capital concentration vs. small firms with low capital concentration: transfer pricing, debt reallocation, intra-firm trade etc. → shifting profits to low-tax and debts to high-tax locations, "real-seat" doctrine, holdings and letterbox companies.
- Difference between moving real capital and profits.

Sources of limited de facto capital mobility

1. necessity of being located close to costumers

The relationship between the size of the services sector and corporate tax rates in 2000



Sources of limited de facto capital mobility

2. concentration of capital and tax arbitrage

The relationship between the share of multinational capital and corporate tax rates



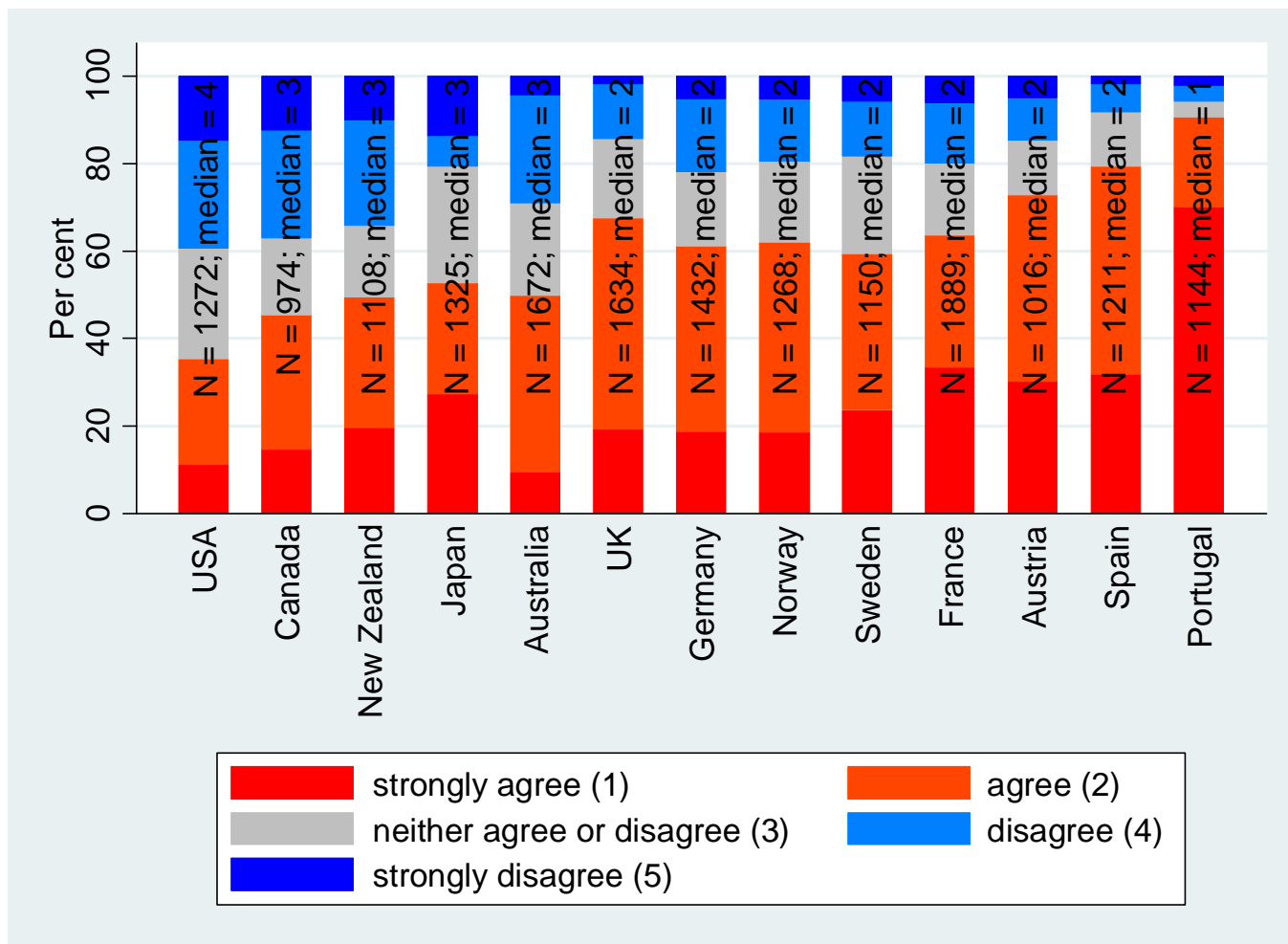
Fairness norms and tax competition

Preferences for societal equality can constrain governments in their ability to create a large gap between the taxes imposed on mobile and immobile tax bases.

How strongly the attitudes towards fairness and equality are enrooted in the society largely depends on the political culture of a country and the initial set up of the welfare state.

Long-lasting political practice shapes voters' expectations regarding the equity and symmetry of the tax system and, hence, influences the behaviour of governments.

Public Agreement with the statement: “It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes”



Source: International Social Survey Project: Social Inequality Survey III, 1999

Empirical Analysis

Pooled Time-Series Cross-Section Data: 23 OECD countries, 1975-2005

Dependent Variables:

- average effective tax rates on capital and labour, calculated according to method provided by Volkerink and De Haan 2004, Data from OECD National Accounts and Revenue Statistics
- tax ratio of effective labour and capital rates
- top corporate tax rates

Explanatory Variables:

- Differently weighted spatial capital tax lag
- Fairness norms: pre-tax Gini and absolute fiscal redistribution, ISSP survey data (17 countries, Role of Government I, II, III and Social Inequality I, II, III) 'I is the responsibility of government to reduce income differences' (1 – strongly agree, ..., 5 – strongly disagree) – country means and SD
- Structure of domestic capital: share of FDI stock (t-1), share of multinational turnover (t-1)
- Budget rigidities: government consumption as % of GDP (t-1)

Control Variables:

- Unemployment rate, GDP growth, share of population over 64 years
- Trade openness: Exports+Imports/GDP
- Average capital account restrictions
- partisanship of government, executive constraints

Model Specification

- Estimation in levels
- Strategic interaction modelled by spatial lags of capital and corporate tax rates weighted with FDI (Distance, GDP, Capital stock)
- Endogeneity: Two Stage Least Squares Instrumental Variable Model (spatial MLE): Spatial lags are instrumented by domestic economic and political variables in other countries

$$\tau_{cjt} = \beta \sum_{j \neq -j} \omega_{j,-j} \tau_{c,-jt} + X_{jt} \gamma + \varepsilon_{jt}$$

- Country Fixed Effects
- Heteroskedasticity and Autocorrelation consistent Variance-Covariance Matrix
- Time trend

Empirical Results

Table 1: Empirical Results for Average Effective Capital Tax Rates: Average Spatial Lags and FDI Weighted Spatial Lags

<i>Dependent Variable: RHS Variables:</i>	Model 1: Capital Arbitrarily weighted	Model 2: Capital FDI weighted	Model 3: Capital FDI weighted	Model 4: Capital FDI weighted	Model 5: Capital FDI weighted
Spatial lag	0.425* (0.244)	0.015*** (0.004)	0.013*** (0.004)	0.011** (0.005)	0.013*** (0.005)
Pre-tax Gini	-65.480*** (15.962)	-63.075*** (15.685)	-74.351*** (14.256)		
Absolute fiscal redistribution	22.150** (10.218)	19.050* (9.827)	26.404*** (8.983)		
ISSP: Redistribution (Mean)				-16.498*** (4.622)	-19.675*** (4.636)
ISSP: Redistribution (SD)				7.424* (3.892)	10.654*** (4.076)
FDI stock (t-1)	-0.011*** (0.003)	-0.011*** (0.003)		-0.011*** (0.003)	-0.009** (0.004)
Turnover of MNEs(t-1)			-0.055* (0.031)		
Share of elderly people	1.987*** (0.404)	1.918*** (0.361)	1.862*** (0.330)	1.429*** (0.398)	2.100*** (0.514)
Budget rigidities (t-1)	1.171*** (0.262)	1.195*** (0.265)	1.383*** (0.275)	1.425*** (0.288)	1.347*** (0.304)
Unemployment (t-1)	-0.418*** (0.136)	-0.468*** (0.135)	-0.480*** (0.143)	-0.795*** (0.138)	-0.696*** (0.153)
GDP growth (t-1)	0.610*** (0.143)	0.600*** (0.140)	0.598*** (0.135)	0.588*** (0.160)	0.527*** (0.160)
trend					-0.316 (0.235)
Trade openness (t-1)					0.015 (0.054)
Capital Restrictions (world)					2.041 (3.715)
Partisanship of government					-0.364

Constraints to executive					(0.347)
					5.274**
Intercept	9.325 (8.095)	20.309*** (7.075)	22.437*** (6.749)	38.667*** (12.022)	1.639 (20.510)
Adj. R ²	0.754	0.766	0.780	0.759	0.765
N (obs)	593	569	576	452	449
F	40.844***	41.916***	34.145***	37.382***	31.650***
Anderson test: relevance of instr.	470.853***	3265.422***	3249.114***	2528.613***	2732.262***
DWH-test endogeneity of SL: χ^2	7.421***	4.607**	4.949**	5.469**	0.082

Table 2: Empirical Models for Average Effective Labour Tax Rates and Tax System Effects: Average Spatial Lags and FDI Weighted Spatial Lags

<i>Dependent Variable:</i>	Model 6: Labour	Model 7: Labour	Model 8: Labour	Model 9: Labour	Model 10: Taxratio Lab/Cap	Model 11: Taxratio Lab/Cap	Model 12: Taxratio Lab/Cap	Model 13: Taxratio Lab/Cap
<i>RHS Variables:</i>	Arbitrarily weighted	FDI weighted	FDI weighted	FDI weighted	Arbitrarily weighted	FDI weighted	FDI weighted	FDI weighted
Spatial lag	0.594*** (0.118)	0.007*** (0.002)	0.007** (0.003)	-0.002 (0.003)	0.038** (0.019)	-0.000 (0.000)	-0.001 (0.000)	-0.001** (0.000)
Pre-tax Gini	26.445*** (7.996)	32.367*** (8.117)			5.020*** (1.213)	4.162*** (1.284)		
Absolute fiscal redistribution	-8.425* (5.190)	-12.489** (5.065)			-1.851** (0.768)	-1.247 (0.807)		
ISSP: Redistribution (Mean)			1.622 (2.536)	2.024 (2.335)			1.374*** (0.400)	1.471*** (0.407)
ISSP: Redistribution (SD)			-1.595 (2.065)	0.340 (1.975)			-0.144 (0.323)	-0.285 (0.345)
FDI stock (t-1)	-0.001 (0.002)	0.001 (0.002)	0.003* (0.002)	-0.001 (0.002)	0.001* (0.000)	0.001** (0.000)	0.001* (0.000)	0.001 (0.000)
Share of elderly people	0.306* (0.164)	0.598*** (0.159)	0.575*** (0.177)	-0.217 (0.201)	-0.215*** (0.031)	-0.170*** (0.029)	-0.163*** (0.034)	-0.232*** (0.046)
Budget rigidities (t-1)	0.588*** (0.126)	0.675*** (0.138)	0.596*** (0.154)	0.770*** (0.148)	-0.065*** (0.020)	-0.105*** (0.023)	-0.121*** (0.025)	-0.108*** (0.028)
Unemployment (t-1)	0.413*** (0.069)	0.310*** (0.071)	0.368*** (0.076)	0.144* (0.077)	0.066*** (0.010)	0.065*** (0.011)	0.087*** (0.011)	0.075*** (0.013)
GDP growth (t-1)	0.014 (0.066)	0.120* (0.072)	0.108 (0.085)	0.037 (0.078)	-0.062*** (0.011)	-0.057*** (0.012)	-0.057*** (0.014)	-0.059*** (0.014)
trend				-0.202* (0.117)				0.018 (0.022)
Trade openness (t-1)				0.099*** (0.026)				0.003 (0.005)
Capital Restrictions (world)				6.831*** (1.847)				-0.057 (0.342)
Partisanship of government				-0.134				0.000

Constraints to executive				(0.174)				(0.029)
				1.333				0.014
				(1.150)				(0.201)
Intercept	-17.739***	-8.041**	2.484	-22.734**	0.908	2.555***	0.394	0.462
	(3.916)	(3.668)	(6.506)	(10.274)	(0.657)	(0.614)	(1.050)	(1.888)
Adj. R ²	0.909	0.905	0.895	0.914	0.748	0.745	0.730	0.733
N (obs)	676	595	478	475	556	492	380	377.000
F	133.488***	118.106***	98.969***	101.180***	38.938***	35.001***	29.289***	24.181***
Anderson test: rel. of instr.	548.38***	3394.03***	2687.08***	2895.56***	421.86***	2816.82***	2148.94***	2302.48***
DWH-test endogeneity of SL	31.772***	46.921***	53.355***	9.257***	0.813	0.450	0.850	0.053

Table 3: Empirical Results for Top Corporate Tax Rates: Average Spatial Lags and FDI Weighted Spatial Lags

<i>Dependent Variable: RHS Variables:</i>	Corporate Arbitrarily weighted	Corporate FDI weighted	Corporate FDI weighted	Corporate FDI weighted	Corporate FDI weighted
Spatial lag	1.120*** (0.095)	-0.009*** (0.002)	-0.010*** (0.002)	-0.011*** (0.002)	-0.004* (0.002)
Pre-tax Gini	-50.761*** (13.276)	-61.006*** (15.003)	-75.520*** (14.497)		
Absolute fiscal redistribution	28.490*** (8.522)	38.723*** (9.388)	44.652*** (8.897)		
ISSP: Redistribution (Mean)				-5.237 (4.761)	-9.043** (3.981)
ISSP: Redistribution (SD)				5.733 (3.747)	5.867* (3.274)
FDI stock (t-1)	-0.002 (0.003)	-0.010*** (0.003)		-0.013*** (0.003)	-0.001 (0.003)
Turnover of MNEs(t-1)			-0.122*** (0.031)		
Share of elderly people	0.501* (0.293)	-1.286*** (0.295)	-0.447* (0.275)	-1.591*** (0.327)	1.056** (0.428)
Budget rigidities (t-1)	0.253 (0.225)	0.852*** (0.255)	0.803*** (0.253)	1.294*** (0.289)	0.804*** (0.265)
Unemployment (t-1)	-0.088 (0.115)	-0.210 (0.134)	-0.311** (0.136)	-0.432*** (0.143)	0.133 (0.130)
GDP growth (t-1)	0.106 (0.116)	0.068 (0.135)	0.128 (0.135)	0.058 (0.159)	0.227* (0.138)
trend					0.139 (0.204)
Trade openness (t-1)					-0.071* (0.041)
Capital Restrictions (world)					-14.452*** (3.191)
Partisanship of government					-0.020 (0.299)
Constraints to executive					-0.867

Intercept	7.479 (7.376)	62.114*** (6.835)	62.230*** (6.828)	46.906*** (12.248)	(1.967) 83.795*** (17.460)
Adj. R ²	0.714	0.662	0.649	0.678	0.791
N (obs)	635	601	604	484	454
F	35.622***	26.184***	24.851***	26.548***	38.389***
Anderson test: relevance of instr.	998.313***	4543.498***	4639.857***	3545.780***	3217.512***
DWH-test endogeneity of SL: χ^2	32.293***	13.749***	19.481***	15.944***	1.766

Table 4: Standardized Effects of the Main Variables

Standardized effects <i>Independent Variables:</i>	AETR on Capital	Top Corp. Rate	AETR on Labour	Tax Ratio
Spatial lag	0.066*	0.528***	0.113***	0.075**
FDI*SL	0.095***	-0.106***	0.054***	0.008
Pre-tax Gini	-0.156***	-0.188***	0.100***	0.144***
Absolute fiscal redistribution	0.080**	0.184**	-0.059**	-0.084**
ISSP: Redistribution (Mean)	-0.625***	-0.348*	0.063	0.611***
ISSP: Redistribution (SD)	0.170***	0.113*	-0.031	-0.059
Share of highly mobile capital (t-1)	-0.152***	-0.200***	0.017	0.180***
Budget rigidities (t-1)	0.378***	-0.280***	0.249***	-0.253***
Share of elderly people	0.324**	-0.260***	0.104***	-0.507**
Unemployment (t-1)	-0.147***	-0.078	0.121***	0.257***
GDP growth (t-1)	0.092***	0.012	0.021	-0.110***

Conclusion

Opportunistic governments choose tax-mixes that maximize political support.

They face diverse domestic and international pressures.

Neither international forces nor domestic constraints dominate policy outcomes completely.

Since domestic settings such as voters' demands for tax symmetry and public good provision as well as the structure of the domestic capital bases differ across countries, the willingness and ability of governments to engage in international tax competition varies as well.

Thus,
tax rates on capital and labour are not likely to converge in the near or far future and large variation in national tax systems should persist.

Is tax competition good or bad?

Bad, if we believe that governments are social welfare maximizers, they provide the optimal amount of public and private goods.

Good, if we believe that governments tend to overtax the society, provide useless benefits to a small minority of important voters and influential individuals.